(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
8 March 2001 (08.03.2001)

PCT

(10) International Publication Number
WO 01/16814 A1

(51) International Patent Classification[7]: G06F 17/60

(21) International Application Number: PCT/AU00/01017

(22) International Filing Date: 28 August 2000 (28.08.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PQ 2860 27 August 1999 (27.08.1999) AU

(71) Applicant *(for all designated States except US)*: **FHP AUSTRALIA PTY LTD** [AU/AU]; Level 32 MLC Centre, Martin Place, Sydney, NSW 2000 (AU).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **JOHNSON, Phoebe, Harriet** [AU/AU]; 22/231 Edgecliff Road, Woollahra, NSW 2025 (AU). **McCARTHY, Justine, Anne** [AU/AU]; 2A/12 Onslow Avenue, Elizabeth Bay, NSW 2011 (AU). **EVERETT, Daniel, Anthony** [AU/AU]; 113/105 Campbell Street, Surry Hills, NSW 2010 (AU). **KETCHEN, Erica, Brooke** [AU/AU]; 41/63A Barnstaple Road, Russell Lea, NSW 2046 (AU).

(74) Agent: **FREEHILLS CARTER SMITH BEADLE**; Level 32 MLC Centre, Martin Place, Sydney, NSW 2000 (AU).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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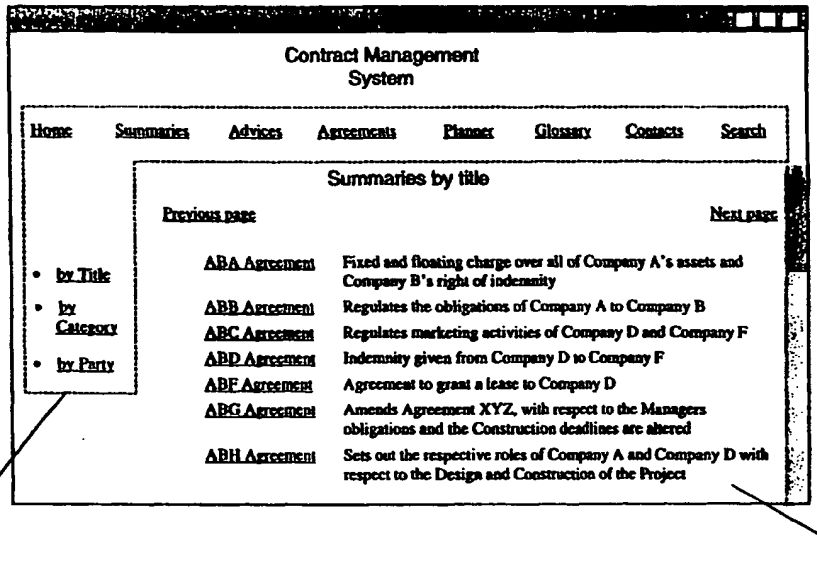
(54) Title: AN INFORMATION MANAGEMENT SYSTEM



(57) Abstract: An information management system able to assist with the management and monitoring of a multiplicity of documents containing rights and/or obligations including due dates, arising out of a plurality of primary documents. The system includes a database adapted to store in an electronic and searchable format the plurality of primary documents, in addition to an electronic diary system linked to the database which records at least selected due dates arising out of the primary documents. There is also provided an access means for use in interrogating the database and diary system; and a display means for selectively displaying both details of the documents and the due dates.

WO 01/16814 A1

Published:
— *With international search report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

An Information Management System

Field of the invention

This invention relates to an information management system and method of implementing same. More particularly although not exclusively, the invention relates to an information management system which can be used to monitor rights and obligations defined in documents stored in the system.

Background of the invention

Many individuals and organisations enter into contracts under which they must take specified actions by particular dates. Failure to comply with the contractual undertakings can have serious consequences.

For example, a corporation involved in a large project, such as a construction project, might enter into a number of different contracts with a number of different parties which prescribe a range of obligations that must be carried out by the contracting parties within defined time frames.

It is common with large projects for there to be fifty or more separate contracts, with very complex and multi-tiered inter-relationships or interdependencies between various project contracts.

In such circumstances, it is very important to ensure that, during the entire course of a project, all affected parties are aware of:

- which project contracts are affected by any particular event and, if so, how and to what extent; and
- in particular, where contract terms change, as often occurs during on-going projects, the implications of the change across the whole of the project's contractual matrix.

A diary system can be set up to ensure that the required actions are taken within the required time frames however there may be limitations with such a system as:

- managing a necessarily complex diary system can be a onerous, requiring significant resources; and
- such a system will not normally keep track of the contractual interdependencies and project dynamics mentioned above.

In this regard, it is not for example, unusual with large projects or undertakings for their to be fifty or more contracts entered into, each of which requires actions to be undertaken at predetermined times and which may extend over a period of months or years.

Where new contracts are entered into or terms of contacts change for any reason, it is important to ensure that any new contracts or changes do not conflict with previously agreed undertakings. Therefore before agreeing to a particular change a corporation might often need to be made fully aware of the other obligations which have previously been agreed so as to ensure that no new undertakings are agreed to which is in conflict with previously agreed undertakings.

Where in the specification the word "document" is used, it is to be interpreted broadly to include within its scope contracts, agreements, legislation, electronic text files, drawings or figures and any other item, or group of items, of written or printed matter.

Where in the specification the term "due date" is used, it is to be interpreted broadly to include within its scope a calendar date and/or time in which a specified event, action or milestone must be executed.

Summary of the invention

According to a first aspect of the present invention there is provided an information management system able to assist with the management and monitoring of a multiplicity of documents containing rights and/or obligations including due dates arising out of a plurality of primary documents, the system including:

a database adapted to store in an electronic and searchable format the plurality of primary documents;

an electronic diary system linked to the database which records at least selected due dates arising out of the primary documents;

access means for use in interrogating the database and diary system; and

display means for selectively displaying both details of the documents and the due dates.

According to a second aspect of the present invention there is provided a method for implementing an information management system able to assist with the management and monitoring of a multiplicity of documents containing rights and/or obligations including due dates arising out of a plurality of primary documents, the method including the steps of:

providing a database adapted to store in an electronic and searchable format the plurality of primary documents;

providing an electronic diary system linked to the database which records at least selected due dates arising out of the primary documents;

providing access means for use in interrogating the database and diary system; and

providing display means for selectively displaying both details of the documents and the due dates.

In the preferred form of the invention the database may be divided into sections, each section cross referenced to the others, the sections including at least a first section which incorporates summaries of each of the primary documents stored in the database, a second section which incorporates the primary document themselves, and a third section which incorporates the defined terms in each of the primary documents. Furthermore, the database may include a fourth section of related documents, ie, documents which in some way or another relate to the primary documents. Those related documents may be in the form of advices, correspondence, annexures , contact details, standard clauses, or the like.

Preferably the database is sortable. For example, the documents may be sortable by title, by topic, or by party. Further possible sort topics may be appropriate such as, for example, sorting by obligation, creation date, level of importance, and various subject matter topics. Thus, arranging and organising of the database can be determined in accordance with nature of the documents and the purpose for which the documents might be required by a person wishing to access the documents. Different types of projects might require different sort categories.

The electronic diary system will preferably record all applicable dates which arise out of the documents. The diary system will preferably have some form of notification arrangement associated therewith, such as an appropriate

notification message (ie such as electronic mail) being sent to an appropriate individual, which will be generated, preferably automatically at specified times prior to when each due date occurs and/or on the due date itself. A diary date may be entered into the electronic diary automatically when the primary document is entered into the database, or it may be entered manually by the person loading the document into the database. Preferably the diary entry will include an appropriate cross referencing arrangement so that each diary entry is cross referenced to the portion of the particular document which causes that diary entry to be generated. For example, a diary date could be cross-linked to the clause in the particular primary document which generated the diary entry.

Preferably the system is integrated into a communications network (ie such as the internet or an intranet) and reminders generated by the system are forwarded via the network to individuals who take responsibility for carrying out the tasks to which the due dates relate. Reminders may also be sent to others who monitor whether those tasks have been carried out.

Optionally the system may be updated or maintained or monitored using the communications network and, indeed, new documents and diary entries may be added to the system via such network.

The access means for use in interrogating the database and diary system may comprise a keyboard and screen so that the system is readily accessible using a personal computer connected to the database. The display means for displaying details of the documents may, similarly, comprise a personal computer, or it may comprise a printout, electronic message forwarded to a personal computer, or any other appropriate display or message generation means.

The documents with which the system may operate may be of any appropriate nature. Typically each document will have a multiplicity of rights and/or obligations including due dates associated therewith. Those dates would typically be internal to the documents and may be distributed in different clauses spread throughout the document, or they may be dates which are external to the documents but which relate to the transaction of which the documents form a part.

One of the more appropriate uses of the system could be for the monitoring of a multiplicity of different and multiparty contracts entered into by a range of different parties. The system will also be suitable for dealing with a range of other types of documents such as patent specifications, staff reports, personnel documents, prospectuses, bid documents, performance reports, trust deeds, constitutions, multiple leases, funds management agreements and the like. Such documents may be collated and managed, and due dates associated with such documents monitored, using the system of the invention.

Brief description of the drawings

An embodiment of the invention is described below by way of example with reference to the accompanying illustrations. It will be appreciated that the example selected is but one possible use of the system and therefore should not be construed as in any way limiting the ambit of the invention.

Figs. 1 - 12 show example screens which would be presented to a user employing the system for managing a plurality of contracts.

Fig. 13 is an information flow diagram of an information management system accessible to multiple users via a communications network according to the present invention.

Detailed description of the embodiments

The illustrations depict one embodiment of a typical screen architecture or design which would serve as the user interface between the information management system of the invention and a user. As mentioned above, it is envisaged that the system would be set up to monitor a large number of documents and provide due date notifications as and when events which require action, as dictated by the documents, fall due. Typically, and as shown in the present embodiment, the documents comprise contracts relating to a particular project.

In the present embodiment the system is set up to monitor the large array of different contracts which an infrastructure project manager might enter into with various service organisations which interface with the project manager in relation to the use of the infrastructure facility.

It will be appreciated that the types of organisations which might be involved in that interface include such groups as:

- municipalities;
- traffic authorities
- signage organisations;
- medical services;
- repair and maintenance services;
- security services;
- advertising organisations;

Certainly it would not be considered unusual for an infrastructure project to have entered into a hundred or more contracts with these types of different services suppliers. Each contract with a third party organisation would typically have rights and obligations associated therewith, including obligations to undertake specified tasks or make specified payments at predetermined times or on the happening of predetermined or preselected events.

Very often the project environment is dynamic, with contracts being of a developing or changing nature.

In such an environment, the management company would need to the tools to enable it to ensure that:

- the management company;
- relevant suppliers; and
- all other persons whose performance is affected by the relevant contracts,

are aware of the implications of changes within the project contract matrix and, overall, satisfy their respective obligations.

Referring to Fig. 1, it will be noted that the screen is a display of a typical web browser screen for the preferred embodiment.

In the preferred embodiment, the system is network based which allows the system to be accessed by authorised client users of the Internet.

The screen itself is divided into two sections, namely an index section shown by broken lines as index section 10 and an information section 12. The index section 10 provides a facility for navigating within the database and the information section 12 provides information, at different levels of detail, of the different sections of the database.

The screen shown in Fig. 1 details what are in effect summaries of the different agreements contained within the system. The summaries may be sorted to suit the user and the screen shown at Fig. 1 has the summaries sorted by alphabetically "title". It will be noted that the summaries may also be sorted by "category", ie. the topic to which the agreements relate, or by "party".

Fig. 2 depicts the summaries sorted by category. Two of the categories are depicted in the Fig. 2 screen and other categories include "design and construction", "insurances", "intellectual property" and the like. It will be noted that each of the categories is expandable and in Fig. 2 the category "security" has been expanded to illustrate the seven agreements which are broadly relevant to that topic.

It will be noted that the seven agreements which are listed under "security" have short summaries associated therewith which provide an outline of the nature of those particular agreements. A user of the system who is in any way familiar with the contracts which are stored in the database would be able to identify which particular contract is being referred to from the details set out in a summary. By selecting the relevant hypertext link, a user can immediately access the content of these summaries.

Turning to the screen shown in Fig. 3, a summary of a particular agreement is shown in more detail. In this instance the screen shows details of the "ABA Agreement (Summary)". In particular, the summary shows details of the parties and the purpose of the agreement. Also, the categories broadly relevant to the agreement are listed and electronically linked to relevant detail in either the summary and/or the particular agreement. The summary also contains a brief description of the important clauses of the relevant agreement, together with hypertext links directly to the relevant clauses in the actual agreement. Thus, the database stores a summary of the contract with access to the individual contract clauses also being obtained through a readily expandable indexing system which enables a user to quickly and efficiently seek out the clause which he or she requires.

A user has multiple means of viewing the contents of a summary. A user can view the contents by starting at the beginning of the summary and then moving down through its contents by using the arrows on the right hand side of the screen. Alternatively, by selecting one of the headings (eg. Breach events, or Key date(s)) on the index section 10, the user is immediately shown the relevant part of the summary.

If a user is interested in immediately viewing any or all of the topics identified as relevant to the ABA Agreement, they first select the hypertext link "Categories" shown on the index section 10, and the screen shown in Fig. 4 is displayed on the web browser.

The screen shown in Fig. 4 illustrates to the user, the categories which are broadly relevant to the ABA Agreement. If, for example, the user wants to see the summary's description relevant to Maintenance and Repairs, the "Summary below" hyperlink text is selected for that category and the user is then shown the relevant part of the summary. Alternatively, if the user wants to view the actual clause of the contract relevant to Maintenance and Repairs, the user selects the "[Clause 8]" hypertext link and the screen shown in Fig. 5 is displayed on the web browser so that the user can view that relevant clause of the ABA Agreement.

Using the embodiment of the present invention, it is possible for a user to view parts of an Agreement in summary form and then, as the information of each document is cross-referenced using hypertext linking on the web page, review those other documents or parts of documents which require review.

Turning to Fig. 6, a screen is shown which details a list of "advices" which might be relevant to the management of the infrastructure project. Those advices might be in the form of, for example, letters of advice or memoranda from solicitors, replies to questionnaires provided by service providers, or any other document which the user of the system feels should be included in a list of, "advices". Optionally those advices may be accessible only to certain users of the system, such a top level management, or different categories of advices might be accessible by different individuals within an organisation.

In other embodiments of the invention, the system could have further categories of documents added thereto, and the "advices" screen is intended to suggest one form of additional screen which might be suitable for an information management system of the type under consideration.

Fig. 7 depicts a screen which lists all of the agreements, by title, on the system. A user can view the text of a particular agreement by selecting the hypertext link for the relevant agreement. The example shows only eleven agreements but clearly, as mentioned above, the system may contain as many agreements as the user feels is appropriate. Typically a system would be used for one particular project but the extent to which a user bundles together agreements relating to more than one project depends, of course, on a particular user's preferences.

Fig. 8 depicts a "planner" or diary screen. Fig. 9 and 10 depict the monthly checklist screen.

The planner screen (Fig. 8) is designed to notify the user when events or obligations detailed by the contracts stored in the database fall due for action. Fig. 8 depicts the month of January 1999. For example, the entry on January 1 1999 indicates that "Company A to pr..." in hypertext link. If this is selected the browser displays the details for the due date: "Company A to provide Operation and Maintenance Report" which must be provided on 1 January 1999. The browser also displays a hypertext link to the description of that obligation in the relevant summary and a hypertext link to the relevant clause in the agreement itself. This enables the user to access readily more information relevant to the particular due date.

Thus, a user of the system can use the diary system for monitoring dates of importance relating to any of the clauses of all of the contracts on the system.

It will be appreciated that some of those dates would typically occur monthly, some of them annually, and others might occur on a more random or adhoc basis.

Referring now to Figs. 9 and 10, there is depicted a monthly checklist screen. This is designed to list chronologically for the user in a checklist format, the diary entries for that month. Thus, a user can use this list to check that the obligations have been fulfilled.

When the contracts are entered into the database all due dates which arise out of the contracts should be entered into the planner. One possible option is for the due dates to be extracted automatically from the contract at the time of entry or loading of the contracts into the database. It is envisaged that this would require the dates to be entered into the contracts with a suitable "marker" attached thereto so as to allow for automatic extraction thereby ensuring that the system would be sufficiently "intelligent" to identify and extract dates from all the clauses of the contract.

Otherwise, the dates would simply be manually extracted by the person who downloads the contracts onto the database to thereby ensure that all appropriate diary dates are correctly entered against all relevant future obligations.

Thus, the system allows a user to interface a diary system with contract clause entries in a user friendly and readily accessible manner. The user is able to keep track of contracts relating to a particular project in one database and has comfort that certain dates relating to those contracts are stored in a correlated and cross-referenced diary system. Clearly, as the project develops and more contracts are added to the system the dates pertaining to those additional contracts can be included into the planner and, if necessary, conflicting dates identified. The system could be developed so that any conflicts, or certain types of conflicts, are automatically highlighted.

Fig. 11 depicts a "search" screen which can be used to search through the database for information which might pertain to a particular subject matter or phrase. Thus, if a user wished to find all clauses of the agreements on the system which might relate to an issue such as "Motorway" then the word "Motorway" is typed into the search block and a search carried out through all documents on the system for that term. Thus, provided the contracts have used relatively consistent terminology for the same types of matters then a search in this manner would allow the user to be reasonably confident that all clauses in the various contracts in the system which impact on those matters will be located in the search. Clearly this can have considerable advantages for the user of the system. Optionally the search tool may be made more sophisticated to allow for boolean searching thereby enabling a search to be more accurately targeted then simply for a particular term or phrase.

Fig. 12 depicts the results of the search which has been carried out and it would be noted that the results are listed in levels of relevance which is determined by the number of times the search term occurs in the relevant document. The more relevant clauses are listed at the top of the search results with a darker block adjacent to the first item, and the less relevant clauses listed at the bottom of the list, with a lighter block adjacent thereto. Clearly, where the database contains a large number of contracts the ability to search through those contracts, and list the search results in levels of relevance will be particularly advantageous.

It will be appreciated that the system described herein would be particularly advantageous for use with large projects or large undertakings. In order to review the contracts for the project it will not be necessary for any person to have access to a hard copy of the document. Multiple users can thus be given access to all, or selectively only some of the documents, and will be able search for particular information which pertains to their field of activity or for which they might be responsible. Thus, by accurately and responsibly managing the database a user can be confident that all persons who need access to the documents have access to a correct version of the document and that appropriate persons are all fully and timeously made aware of due dates which arise in relation to obligations arising out of those contracts.

Fig. 13 shows the flow of information between a network-based information management system and multiple client users for the preferred embodiment described above. The information management system database 21 is resident on a server 20 from which a client user 15 of the Internet 14 can retrieve stored data and make database queries. In this embodiment, the database can be interrogated by an application program 23 which operates on the UNIX operating system and the application program 23 is written in a SQL such as MySQL. The server 20 also supports a website 21 which is accessible to client users 15 via the Internet 14. The client users 15 typically will

have access to a personal computer 16 for connection to the server 20 via the Internet 14. Screen 17 is a user screen for displaying ducuments and database information as depicted in Figs. 1 to 12. Although not shown in Fig. 13, the client 15 may equally be a server linking a network of computers. Similarly it will be appreciated that the network linking the server 20 to the client users 15 may not be the Internet 14, but rather an intranet or some form of local area network (LAN).

It will also be possible for a user to outsource the management of the database. For example, where a user employs the services of a firm of solicitors to act on its behalf in preparing contracts and agreements it will be possible for the firm of solicitors to manage the database and thereby ensure that all contracts are loaded correctly onto the database, and all dates which arise out of those contracts are entered into the planner section of the database. It will be possible to add additional contracts, as they are entered into, onto the database from a remote location via the Internet which is one reason why it is preferable to have the system as a network based system. Also, a network based system allows individuals within a user organisation to be automatically reminded by electronic mail as and when obligations fall due and, as previously mentioned, it will be possible to remind different people within an organisation so as to ensure that checks and balances are built into the project.

Clearly, the invention may be easily modified to contain a host of different types of documents. For example, the system will be suitable for storing in electronic format a large number of patent specifications and all dates pertaining to those patent specifications can be stored in the planner section of the database. Thus, a user would be advised when renewal dates on particular patents fell due, and, once again, a user would have access to a cross linked system so that not only would the user be reminded when the dates fell due, but also have immediate access to the patent specifications stored on the system so as to be able to cross check which patent it was that had fallen due for renewal by checking on a summary of the patent, or the patent specification itself.

Clearly, other forms of documents could equally well be installed using this system. This system has particular application where there are a large number of complex documents, where there are multiple inter-relationships between the documents, and where dates and obligations are associated with the documents that are stored.

It will be understood that the invention disclosed and defined herein extends to all alternative combinations of two or more of the individual features mentioned or evident from the text or drawings. All of these different combinations constitute various alternative aspects of the invention.

The foregoing describes an embodiment of the present invention and modifications, obvious to those skilled in the art can be made thereto, without departing from the scope of the present invention.

Appendix A outlines a technical specification for another preferred embodiment and in particular describes certain elements of the system and the internal operations of the system.

Appendix A

1 Introduction

This document describes the architecture of the Contract Management System (CMS). The system is implemented as a Notes database.

It is assumed the reader is familiar with:

- Notes database design, including Domino applications and LotusScript,
- The functional specification of the system,
- Web browser software and elements of web design.

2 System overview

Briefly, the system is intended to assist an organisation which is a party to large number of contracts, etc. to meet it's obligations under those contracts. It does so by providing an efficient means to access the contracts themselves. and analysis of the content.

In more detail, the functions of the system are:

To store the full text of various contracts, agreements, deeds, ("Agreements") etc. These are essentially flat documents.

To store summaries of the meaning, consequences of breach, etc ("Summaries") of those contracts, etc.

A glossary defining many of the terms used in the Agreements and Summaries.

To keep a calendar of certain dates which are important under the Agreements ("Key Dates"), and to optionally send email reminders to nominated people prior to those dates.

Full-text searching is permitted on the content of Agreements, Summaries and Advices.

Various navigation structures are in place to tie these functions together in useful ways.

- The system is intended to be used from the Notes client by editorial staff, and from the browser client for those who are only viewing the content. Because of this, there are many design elements with both a Notes client and a browser client version. For forms, the browser version's name has a "w" prefix, eg the "Reckoner" form's browser equivalent is named "wReckoner". For views, the browser version is under the "Web\" hierarchy.

3 Elements of the system

3.1 Agreements

(a) Overview

Agreements are essentially electronic copies of the legal document in question.

The components of the "Agreement" form are:

Title, Section: metadata used to place the document in views. Section is also used for inter-section navigation.

Draft and Status reflect the workflow status of the document.

Readers is computed based on Draft and Status.

Body is rich text, and contains the text of a section of the agreement.

(b) Navigation.

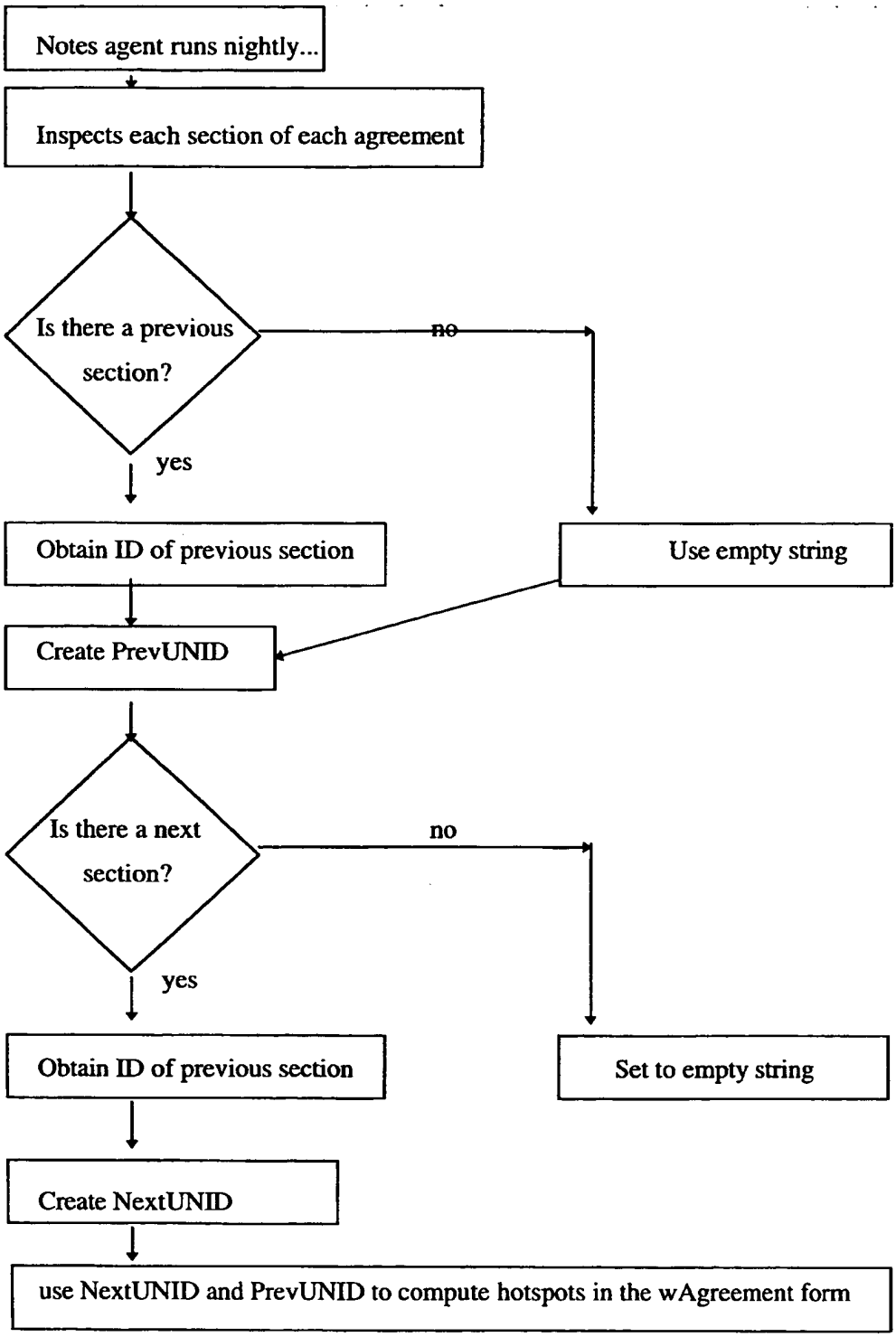
The system is intended to store Agreements broken into readable sections, to avoid displaying a large slab of text the user must scroll through in their browser. Most legal documents contain numbered sections, so these are a natural boundary to break on.

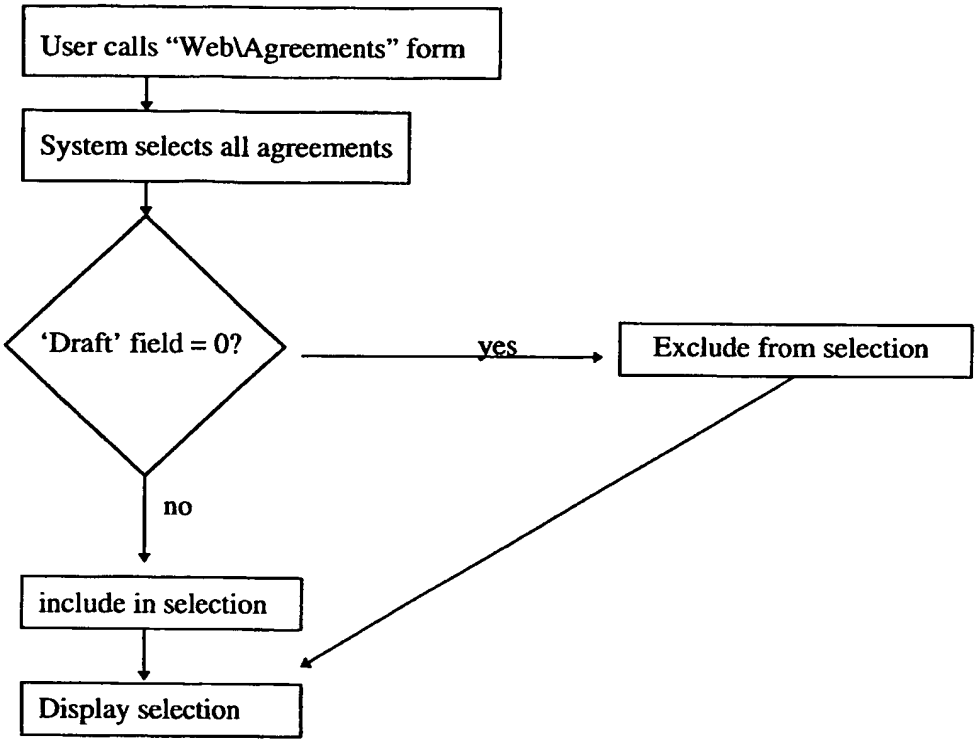
As each Agreement is broken into sections, some way to move between the sections (ie a "Next section" and "Previous section") function is needed. Because of the vagaries of @Command([NavigateNext]) and friends when used in Web applications, a more complex system is used. A scheduled (currently nightly) agent processes all Agreement documents. On each document, "NextUNID" and "PrevUNID" fields are created, containing the UNID of the Agreement document containing the next or previous section of this Agreement, respectively. If there is no next or no previous (ie first or last section), the corresponding field is set to the empty string. The contents of these fields is used to compute URL hotspots on the wAgreement form.

(c) Agreement views for Web clients (Standard Notes function.)

"Web\Agreements" displays Agreements to browser client users. The only notable thing about this view is that it's selection formula excludes Agreements with a value of "0" in the Draft field. The computed Readers field prevents browser users from seeing documents like this anyway, but without the exclusion in the view selection formula, the view could potentially show an empty category.

"Agreements" displays Agreements to Notes client users. The third column displays the document's UNID. This column is used in an @DBLookup formula on the Reckoner form.


Notes agent runs nightly...
Inspects each section of each agreement
Is there a previous section?
no
yes
Obtain ID of previous section
Use empty string
Create PrevUNID
Is there a next section?
no
yes
Obtain ID of previous section
Set to empty string
Create NextUNID
use NextUNID and PrevUNID to compute hotspots in the wAgreement form



3.2 Summaries

(a) Overview

The bulk of the information in a Summary is for display purposes only. The Summary form provides a number of fields to structure this information.

A typical Summary-Agreement pair will have a number of hyperlinks from portions of the Summary to the relevant parts of the Agreement. These hyperlinks are inserted using the normal Notes mechanism, but to assist the user in finding and opening the relevant Agreement, an action ("Agreements") is provided on the Summary form. This action displays a list of all sections of all Agreements on the system, and opens the selected Agreement section.

The Summary form also contains an action to create a new Key Date for the current Summary. This action composes a new Key Date document.

3.3 Key Dates

(a) Overview

A Key Date contains the date, description and other associated information relating to a significant date identified in an Agreement. Key Dates may have a fixed date, or may be a number of days after another Key Date.

Key Dates are associated with the Summary of the Agreement ...This association is implemented by making the Key Date document a response to the Summary document.

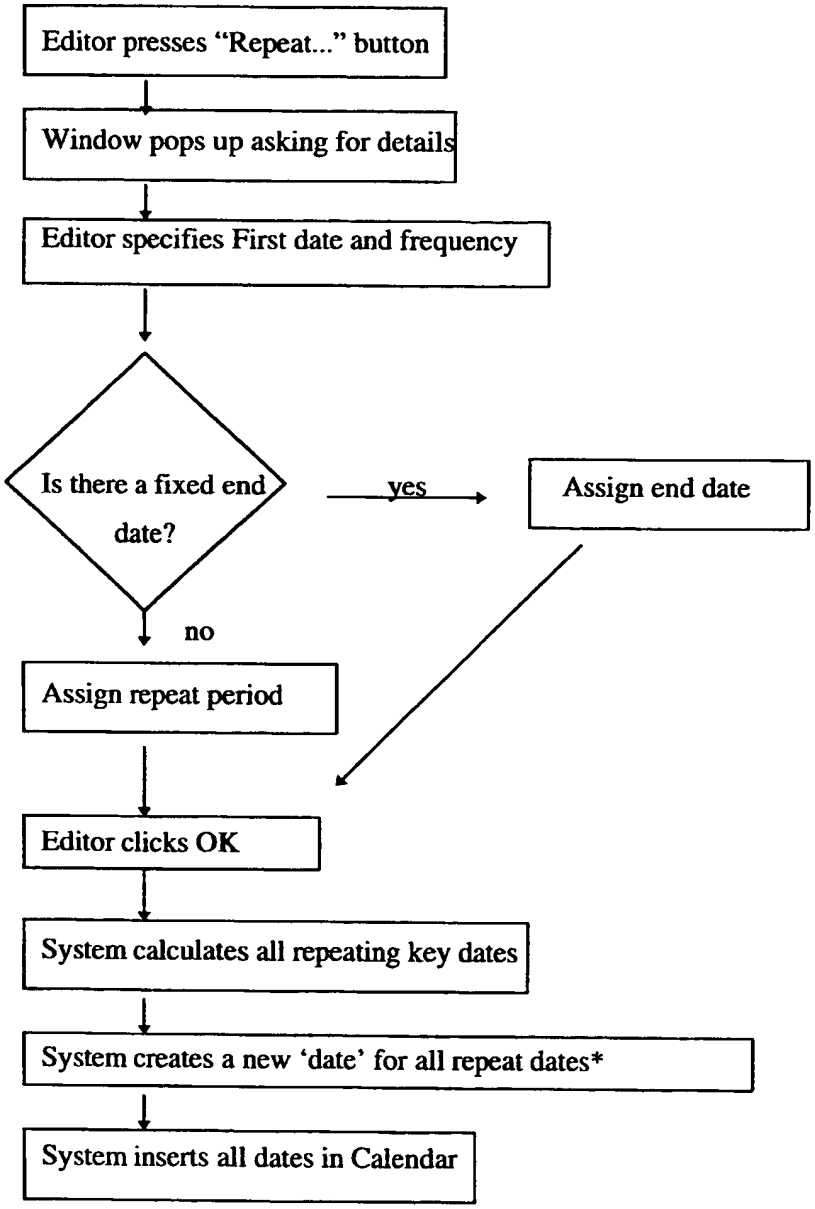
(b) Security

The security of each Key Date cannot be modified directly. Instead, it is controlled by the security of the associated Summary.

(c) Repeating key dates

Many significant dates identified in Agreements are of a repeating nature (eg a monthly payment, or an annual report). Each Key Date can occur on any number of arbitrary dates.

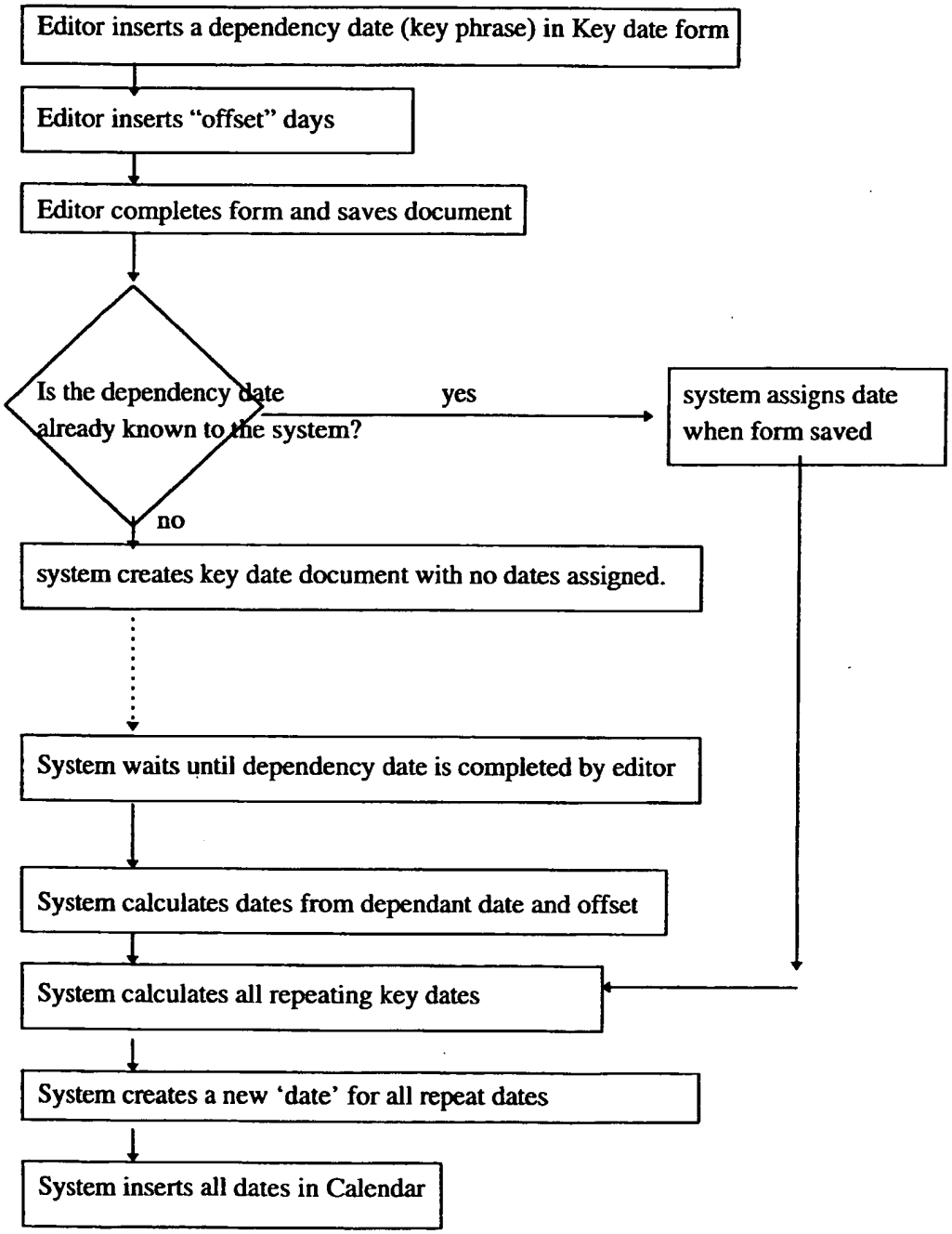
To simplify the entry of a Key Date which may repeat frequently (eg every month for 5 years), the Key Date form contains an action which automatically generates a series of dates. The user specifies the first date on which the Key Date occurs, the frequency (in days or months) at which the Key Date occurs, and either the last such date or the number of times the Key Date should repeat.



*Only one Key Date document is created, regardless of the number of repeat occurances of that date. The purpose of the function is to remove the need for the editor to manually calculate and enter each repeating occurance of a given Key Date.

(d) Dependant key dates

As described above, the exact date of particular Key Date may not be known, but it may be known that the date is some fixed period after another Key Date. The system allows the user to select another Key Date on which the current Key Date depends, and specify the number of days after the selected Key Date the current date occurs.



3.4 Glossary

The Glossary is a collection of terms that occur in the various Summaries and Agreements and their definitions for the purposes of those documents.

The Glossary section of the system allows the user to browse through all Glossary entries, but the primary way for the user to access a Glossary entry is via hyperlinks in Summaries or Agreements.

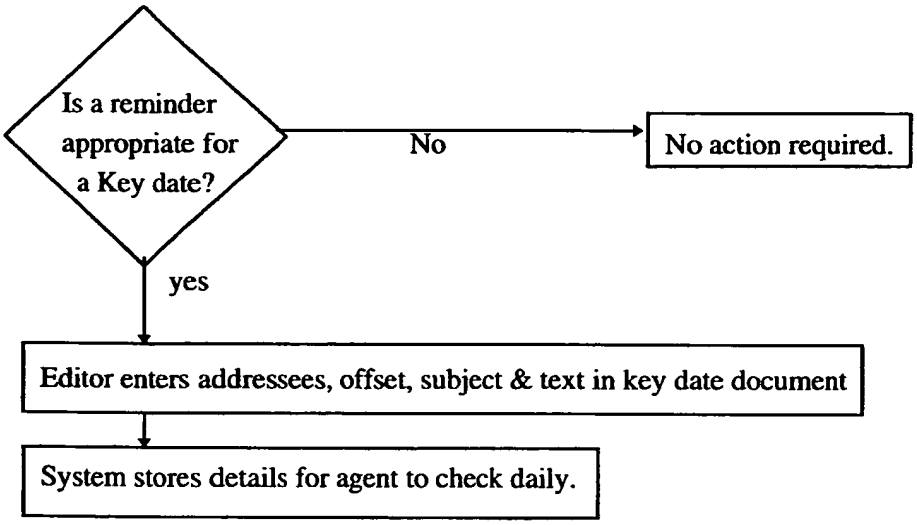
4 Reminders

4.1 Overview

An important aspect of the system is the reminder function, which provides advance warning of impending Key Dates to nominated people. This is achieved by sending said people an email a specified number of days prior to the Key Date occurring.

For a Key Date requiring reminders be sent, the user enters these details in the Key Date document:

- Email address(es) the reminder will be sent to.
- The reminder *offset*, ie the number of days before the Key Date occurs that the reminder will be sent. Multiple offsets may be entered, in which case multiple reminders will be sent, one per offset. An offset may be any positive integer, or 0, in which case the reminder is sent on the date of the Key Date.
- The subject of the email
- The text of the email. The system will prepend the description of the key date, and the offset to this text.



4.2 Sending reminders

A Notes agent is scheduled to run on a daily basis, usually at early morning so reminders are delivered before the start of the business day. The agent iterates over all Key Dates, and creates and sends emails for those when a reminder is due to be sent.

5 The Web Interface

5.1 Introduction

Non-editor users of the system (ie the client) access the system by a web browser client ("browser"). This sections describes the components of the system that constitute the interface to the browser.

5.2 Interface structure

In order to provide an effective interface, the system contains a number of components which generate a customised interface.

(a) Framesets

The interface is based around a 3 or 4-frame frameset, the structure of which is shown in Figure 1 and Figure 2. The frameset displayed depends on which section of the system is currently being used. The 3 frame frameset is used for the Home, Advices, Agreements, Glossary, Contacts and Search sections. The 4 frame frameset is used for the Summaries and Planner sections.

The frames that make up the 2 different framesets are described in the next section.

(b) Frames

The Navigation frame contains links to the various sections of the system. It also contains title information (company logos and the title of the system).

The Content frame displays the main content of whatever section of the system is currently in use. For example, when in the Summaries section, the Content frame displays a list of Summaries. When viewing an Agreement, the Content frame shows the text of the Agreement.

The Title frame, when present, displays the title of the information in the Content frame. This may be a general title (eg "Planner" when displaying the Monthly Planner), or a more specific one (eg "Agency Agreement (Summary)" when displaying the Summary for the Agency Agreement or "Project Agreement (Key Date) when" displaying a Key Date related to the Project Agreement).

The Sub-navigation frame displays links to allow navigation within the information currently displayed in the Content frame. This allows the user to easily navigate to major headings within this information, regardless of the information's length. For example, when viewing a Summary, the Sub-navigation frame display links which navigate to the top of the Summary, and to the Categories, Breach events, Breach consequences, Freehills Advices and Key Dates sub-headings

5.3 Interface implementation

Framesets and other navigation content is stored in Notes documents. This allows maintenance or changes to the web interface without requiring changes in the design of the Notes database.

(a) Framesets

The Frameset\2 frame and Frameset\3 frame forms allow the user to enter the details of the frameset, such as row/column height, and the name and content of the constituent frames. A field on the form computes the appropriate HTML to generate the frameset specified, which is displayed when the frameset document is viewed from a browser client.

(b) Other elements

The system contains some content which is used only to build the interface, such as the title information and links in the Navigation frame, and some of the content displayed in the Sub-navigation frame.

5.4 Interface details

(a) Monthly Calendar/Checklist

The Monthly Calendar uses a standard Notes calendar view to display all Key Dates in a calendar format. The calendar format is fixed to display 1 month at a time.

The Monthly Checklist function presents the user with a form where they may select the month and year the system should report on. Submitting this form causes the system to run a Notes agent, which queries the database to find all Key Dates in the requested month.

(b) Searching

The search function display a form (implemented in the Notes form "wSearch") where the user may select the search scope (any combination of Summaries, Advices and Agreements) and search terms. Submitting the form causes the system to perform a full-text search and display the results. The formatting of the results is controlled by the Notes view "wSearch".

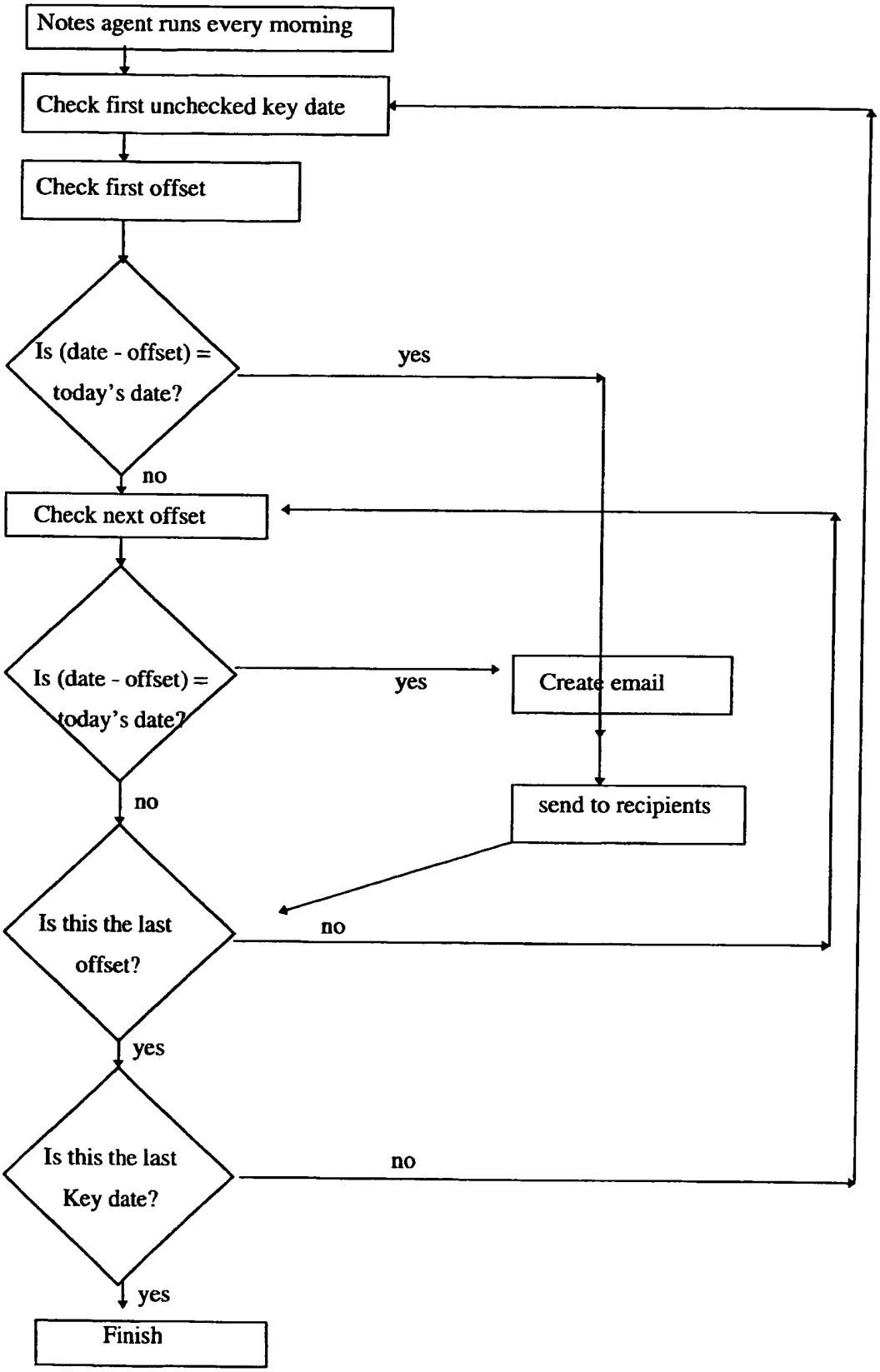
6 Editor processes

Publishing of final versions

Indexing

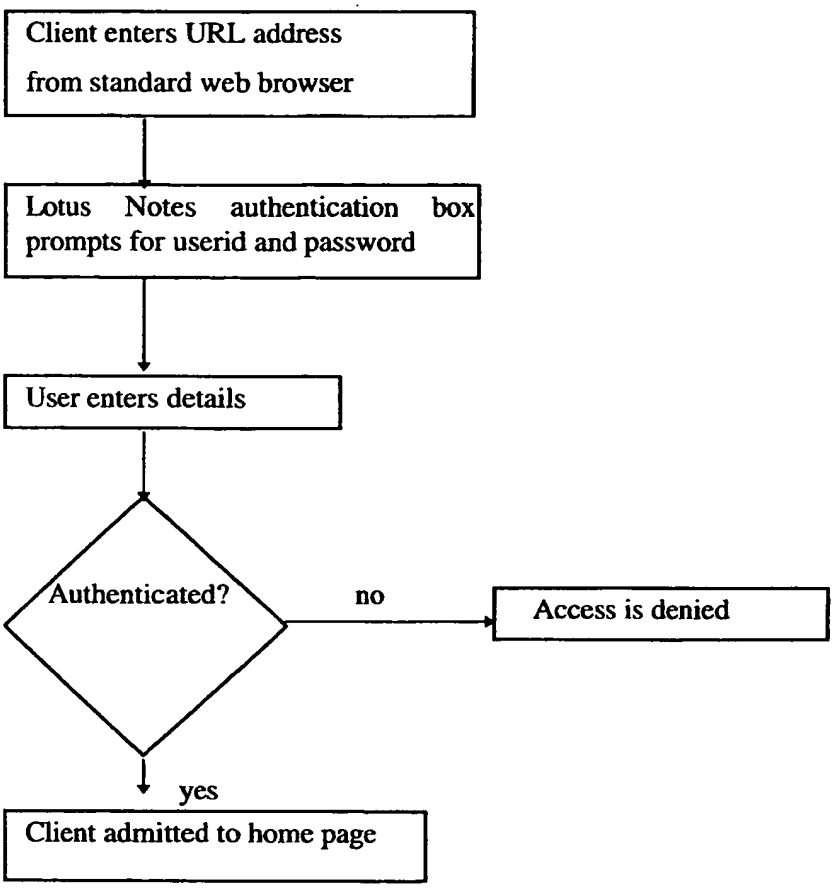
Translation to Web interface

6.1 Sending reminders



7 The web interface (Client processes)

7.1 System entry



7.2 Navigation components

Framesets

8 Adminstrator Processes

8.1 Navigation

All navigation is achieved using:

- Standard URL 'hotlinks'
- Standard Windows Scroll bars
- Notes "twisties" (operated from the browser interface)
- Custom programmed navigation - "next" and 'Previous' page hotlinks

8.2 Viewing/Browsing

All HTML text is viewed using the native browser display

Claims

1. An information management system able to assist with the management and monitoring of a multiplicity of documents containing rights and/or obligations including due dates, arising out of a plurality of primary documents, the system including:

a database adapted to store in an electronic and searchable format the plurality of primary documents;

an electronic diary system linked to the database which records at least selected due dates arising out of the primary documents;

access means for use in interrogating the database and diary system; and

display means for selectively displaying both details of the documents and the due dates.

2. An information management system according to claim 1, wherein said database is divided into sections, each section cross referenced to the others, the sections including:

at least a first section which incorporates summaries of each of the primary documents stored in said database;

a second section which incorporates the primary document themselves, and a third section which incorporates the defined terms in each of the primary documents.

3. An information management system according to claim 2, wherein said database further includes:

a fourth section of related documents in the form of advices, correspondence, annexures, contact details, or standard clauses, which relate to the primary documents.

4. An information management system according to any one of the preceding claims, wherein said database is sortable by a variety of predefined sort categories.

5. An information management system according to claim 1, wherein said electronic diary system records all due dates which arise out of the documents on which an action must be taken.

6. An electronic diary system according to claim 5, wherein said electronic diary system contains a means of notifiying appropriate individuals prior to and/or on each due date.

7. An electronic diary system according to claims 5 or 6, wherein each diary entry includes a cross referencing facility such that each diary entry is cross referenced to the portion of the particular document which causes that diary entry to be generated.

8. An information management system according to any one of the preceding claims, wherein said information management system is accessible to one or more client users on a communications network.

9. An information management system according to claim 8, wherein said communications network includes the Internet, intranet, and local area network (LAN).

10. An information management system according to claims 8 or 9, wherein reminders generated by said information management system are forwarded via said communication network to individuals who take responsibility for carrying out the tasks to which the due dates relate.

11. An information management system according to claim 8, wherein said information management system can be updated, maintained or monitored by said client users over said communications network.

12. An information management system according to any one of the preceding claims, wherein said documents have a multiplicity of rights and/or obligations including due dates internal to said documents and distributed in different clauses spread throughout said documents.

13. An information management system according to any one of the preceding claims, wherein said documents have a multiplicity of rights and/or obligations including due dates external to said documents but which relate to the transaction of which said documents form a part.

14. A method for implementing an information management system able to assist with the management and monitoring of a multiplicity of documents containing rights and/or obligations including due dates arising out of a plurality of primary documents, said method including the steps of:

providing a database adapted to store in an electronic and searchable format the plurality of primary documents;

providing an electronic diary system linked to the database which records at least selected due dates arising out of the primary documents;

providing access means for use in interrogating the database and diary system; and providing display means for selectively displaying both details of the documents and the due dates.

15. A method according to claim 14, wherein said method provides a database which is divided into sections, each section cross referenced to the others, the sections including:

at least a first section which incorporates summaries of each of the primary documents stored in said database;

a second section which incorporates the primary document themselves, and a third section which incorporates the defined terms in each of the primary documents.

16. A method according to claim 14, wherein said method provides a database which further includes a fourth section of related documents in the form of advices, correspondence, annexures, contact details, or standard clauses, which relate to the primary documents.

17. A method according to any one of claims 14 to 16, wherein said database is sortable by a variety of predefined sort categories.

18. A method according to claim 14, wherein said electronic diary system records all due dates which arise out of the documents on which an action must be taken.

19. A method according to claim 18, wherein said electronic diary system contains a means of notifiying appropriate individuals prior to and/or on each due date.

20. A method according to claims 18 or 19, wherein each diary entry includes a cross referencing facility such that each diary entry is cross referenced to the portion of the particular document which causes that diary entry to be generated.

21. A method of implementing an information management system according to claim 14 wherein said information management system is accessible to one or more client users on a communications network.

22. A method according to claim 21 wherein said communications network includes the Internet, intranet, and local area network (LAN).

23. A method according to claims 21 or 22, wherein reminders generated by said information management system are forwarded via said communication network to individuals who take responsibility for carrying out the tasks to which the due dates relate.

24. A method according to claim 21, wherein said information management system can be updated, maintained or monitored by said client users over said communications network.

25. A method according to any one of claims 14 to 24, wherein said method provides for access to documents having a multiplicity of rights and/or obligations including due dates internal to said documents and distributed in different clauses spread throughout said documents.

26. A method according to any one of claims 14 to 24, wherein said method provides for access to documents having a multiplicity of rights and/or obligations including due dates external to said documents but which relate to the transaction of which said documents form a part.

27. An information management system able to assist with the management and monitoring of a multiplicity of documents containing rights and/or obligations including due dates, arising out of a plurality of primary documents, substantially as hereinbefore described with reference to the accompanying drawings.

28. A method for implementing an information management system substantially as hereinbefore described with reference to the accompanying drawings.

Fig. 1

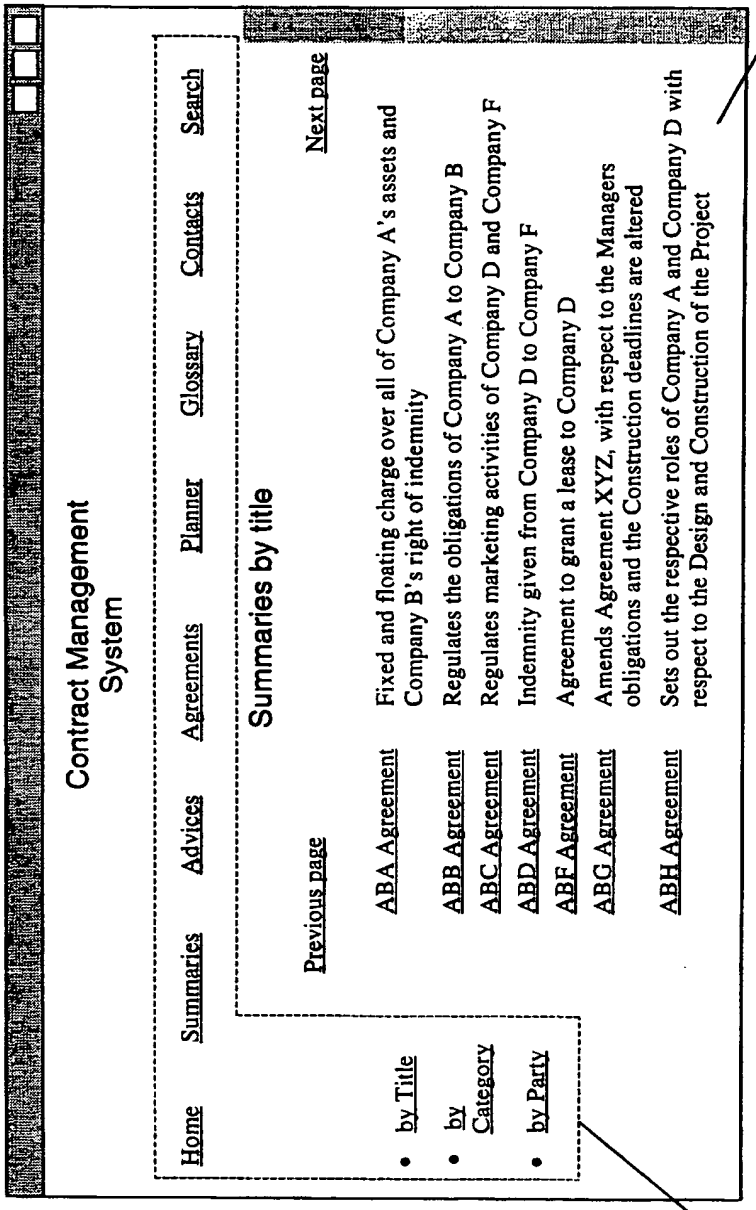

Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Summaries by title
Previous page
Next page
by Title
by Category
by Party
ABA Agreement
Fixed and floating charge over all of Company A's assets and Company B's right of indemnity
ABB Agreement
Regulates the obligations of Company A to Company B
ABC Agreement
Regulates marketing activities of Company D and Company F
ABD Agreement
Indemnity given from Company D to Company F
ABF Agreement
Agreement to grant a lease to Company D
ABG Agreement
Amends Agreement XYZ, with respect to the Managers obligations and the Construction deadlines are altered
ABH Agreement
Sets out the respective roles of Company A and Company D with respect to the Design and Construction of the Project
10
12

Fig. 2

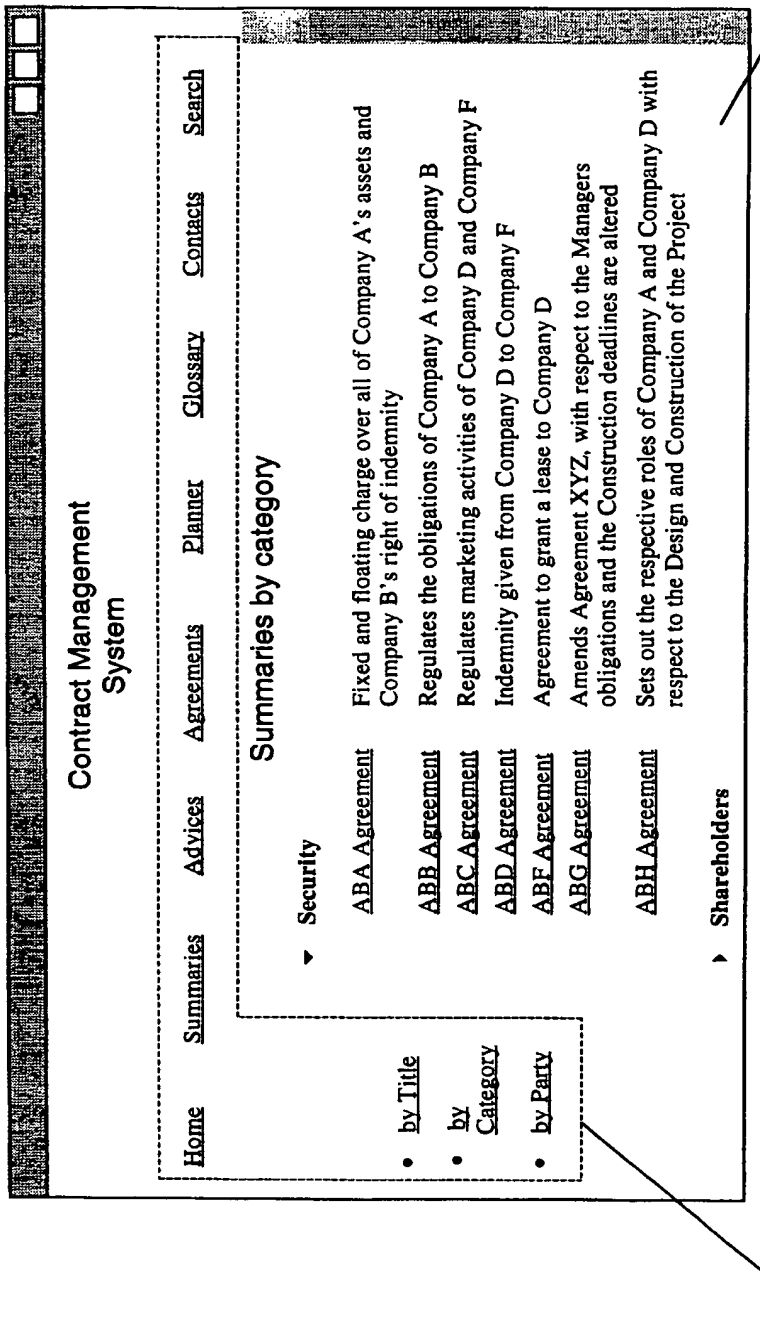

Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
by Title
by Category
by Party
Summaries by category
Security
ABA Agreement
Fixed and floating charge over all of Company A's assets and Company B's right of indemnity
ABB Agreement
Regulates the obligations of Company A to Company B
ABC Agreement
Regulates marketing activities of Company D and Company F
ABD Agreement
Indemnity given from Company D to Company F
ABF Agreement
Agreement to grant a lease to Company D
ABG Agreement
Amends Agreement XYZ, with respect to the Managers obligations and the Construction deadlines are altered
ABH Agreement
Sets out the respective roles of Company A and Company D with respect to the Design and Construction of the Project
Shareholders
10
12

Fig. 3

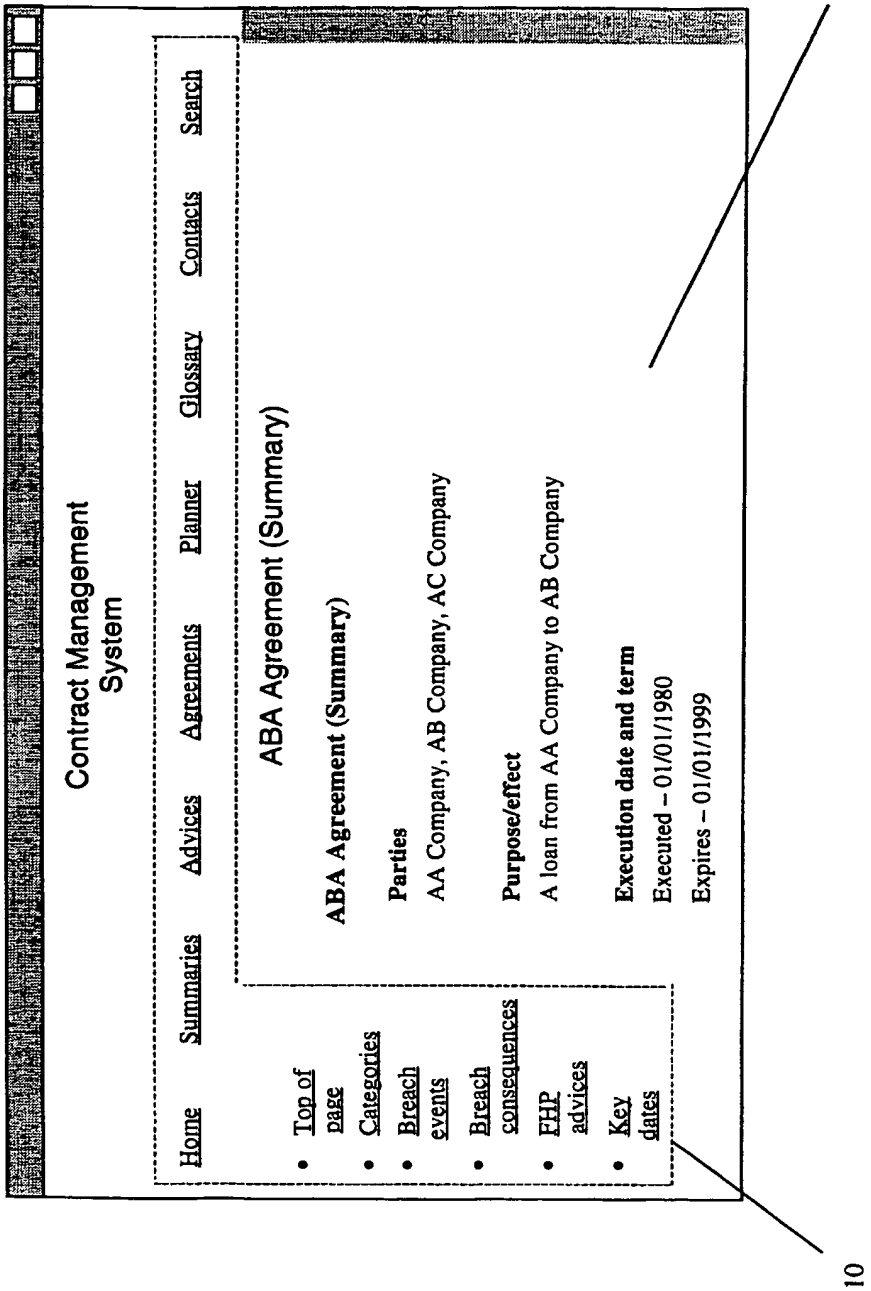

Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Top of page
Categories
Breach events
Breach consequences
FHP advices
Key dates
ABA Agreement (Summary)
ABA Agreement (Summary)
Parties
AA Company, AB Company, AC Company
Purpose/effect
A loan from AA Company to AB Company
Execution date and term
Executed – 01/01/1980
Expires – 01/01/1999
10
12

Fig. 4

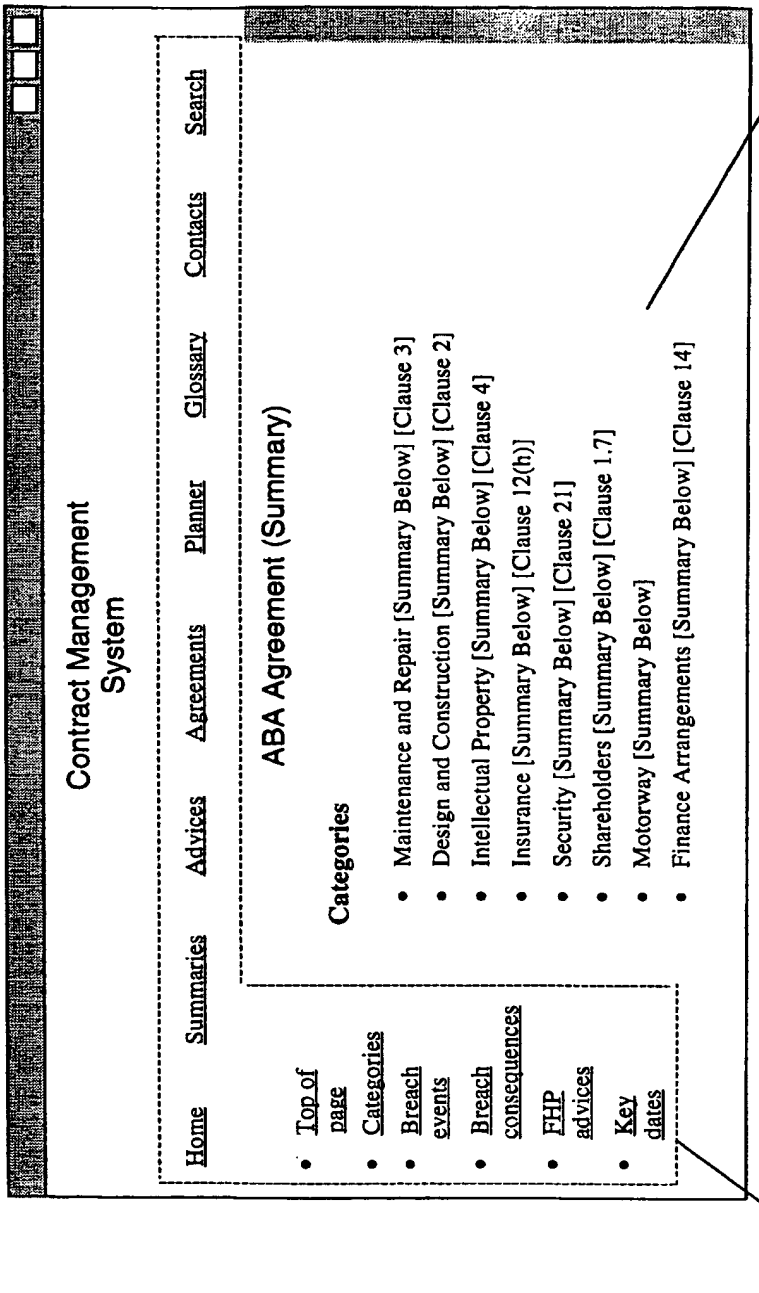
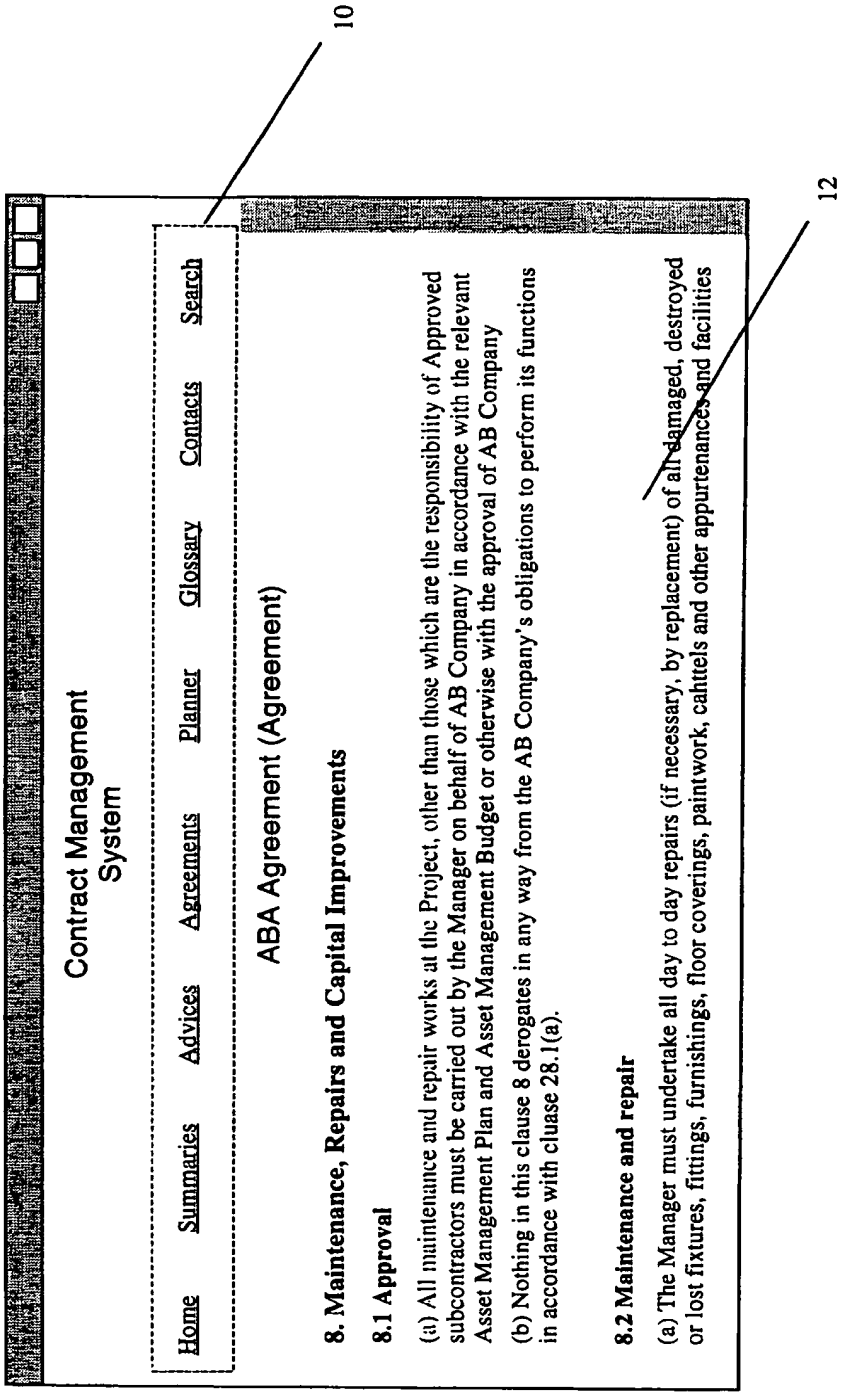

Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Top of page
Categories
Breach events
Breach consequences
FHP advices
Key dates
ABA Agreement (Summary)
Categories
Maintenance and Repair [Summary Below] [Clause 3]
Design and Construction [Summary Below] [Clause 2]
Intellectual Property [Summary Below] [Clause 4]
Insurance [Summary Below] [Clause 12(h)]
Security [Summary Below] [Clause 21]
Shareholders [Summary Below] [Clause 1.7]
Motorway [Summary Below]
Finance Arrangements [Summary Below] [Clause 14]
10
12

Fig. 5


Contract Management System
Home
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Advices
Agreements
Planner
Glossary
Contacts
Search
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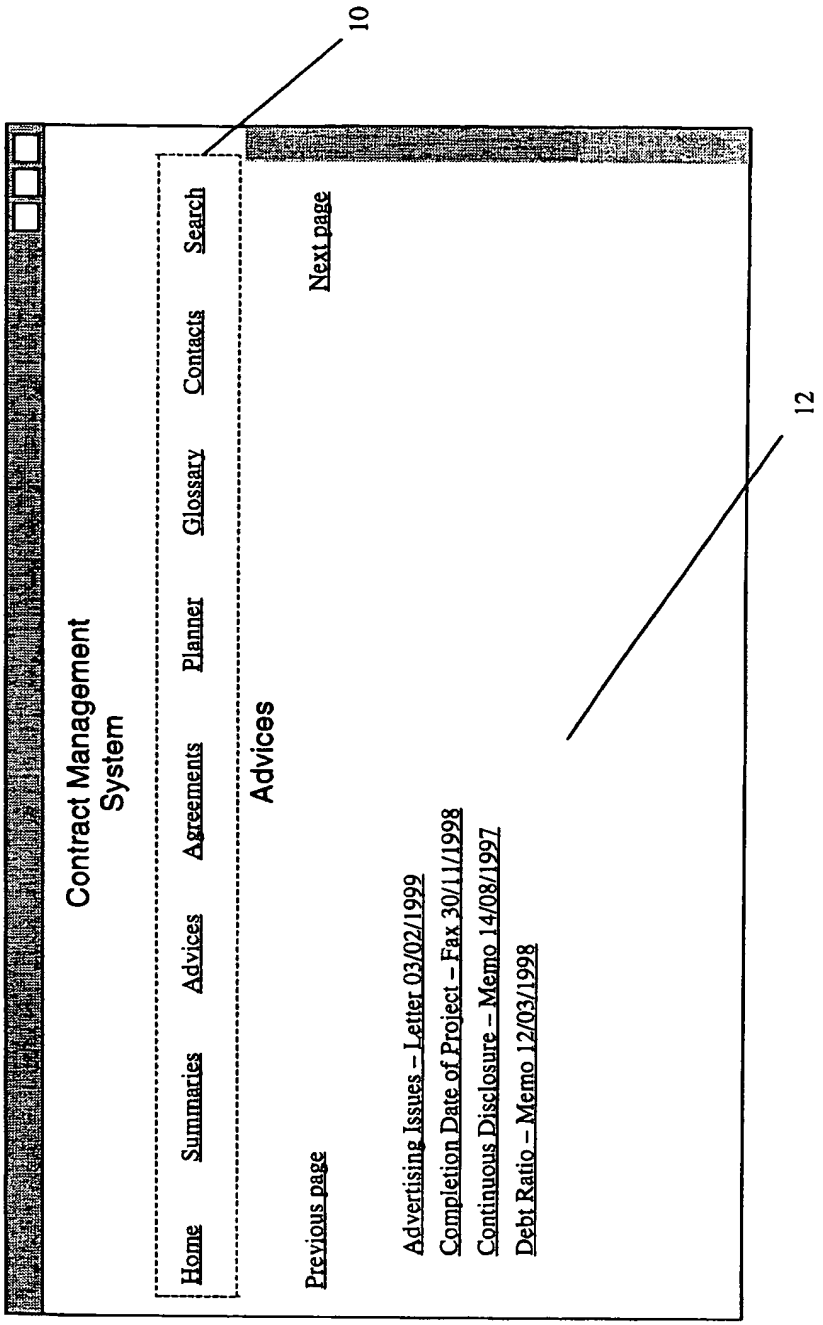
ABA Agreement (Agreement)
8. Maintenance, Repairs and Capital Improvements
8.1 Approval
(a) All maintenance and repair works at the Project, other than those which are the responsibility of Approved subcontractors must be carried out by the Manager on behalf of AB Company in accordance with the relevant Asset Management Plan and Asset Management Budget or otherwise with the approval of AB Company
(b) Nothing in this clause 8 derogates in any way from the AB Company's obligations to perform its functions in accordance with cluase 28.1(a).
8.2 Maintenance and repair
(a) The Manager must undertake all day to day repairs (if necessary, by replacement) of all damaged, destroyed or lost fixtures, fittings, furnishings, floor coverings, paintwork, cahttels and other appurtenances and facilities
12

Fig. 6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Contract Management System
Home
Summaries
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Agreements
Planner
Glossary
Contacts
Search
Advices
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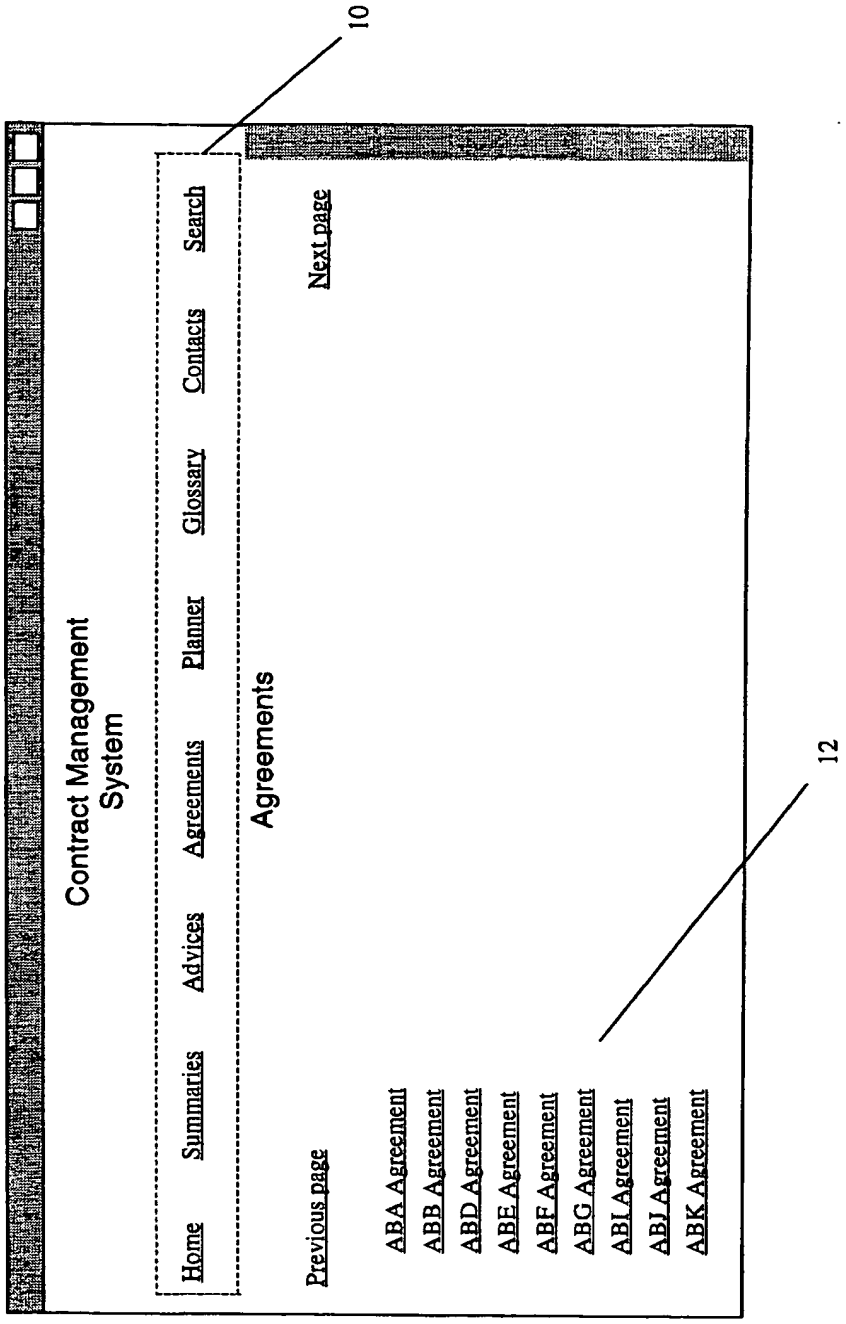
Next page
Advertising Issues – Letter 03/02/1999
Completion Date of Project – Fax 30/11/1998
Continuous Disclosure – Memo 14/08/1997
Debt Ratio – Memo 12/03/1998

Fig. 7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Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Agreements
Previous page
Next page
ABA Agreement
ABB Agreement
ABD Agreement
ABE Agreement
ABF Agreement
ABG Agreement
ABI Agreement
ABJ Agreement
ABK Agreement
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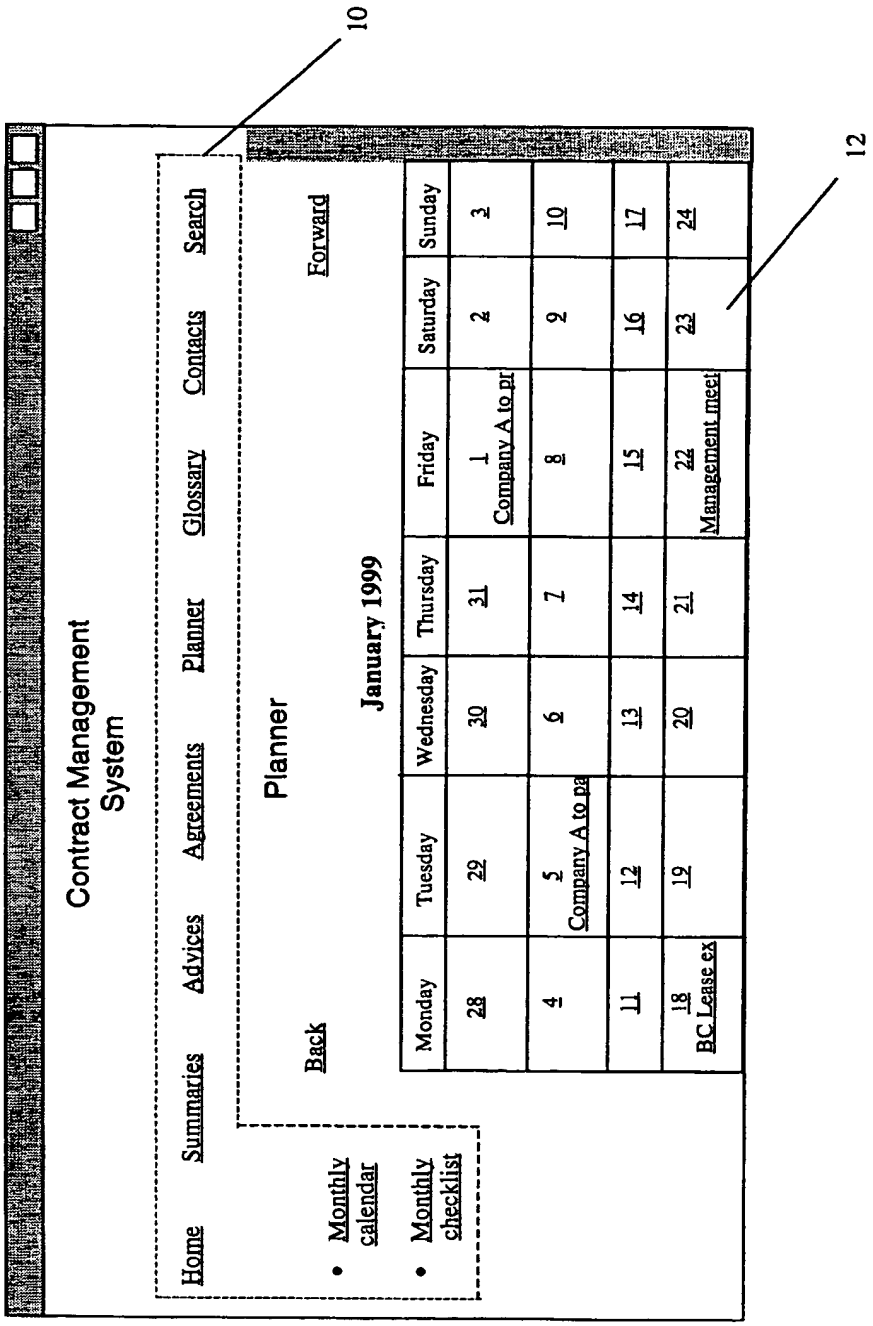
Fig. 8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Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Planner
Back
Forward
• Monthly calendar
• Monthly checklist
January 1999
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
28
29
30
31
1 Company A to pr
2
3
4
5 Company A to pa
6
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13
14
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16
17
18 BC Lease ex
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22 Management meet
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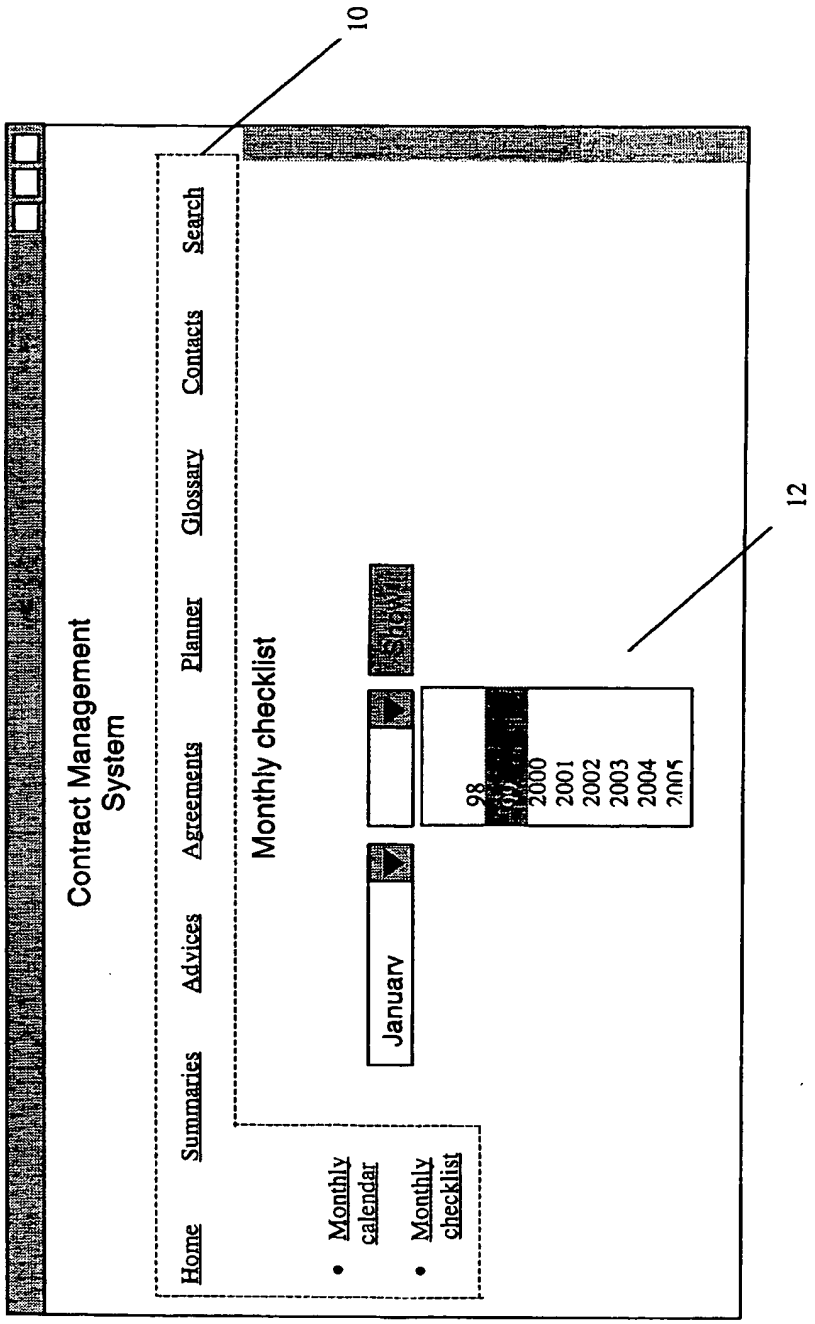
Fig. 9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Contract Management System
Home
Summaries
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Agreements
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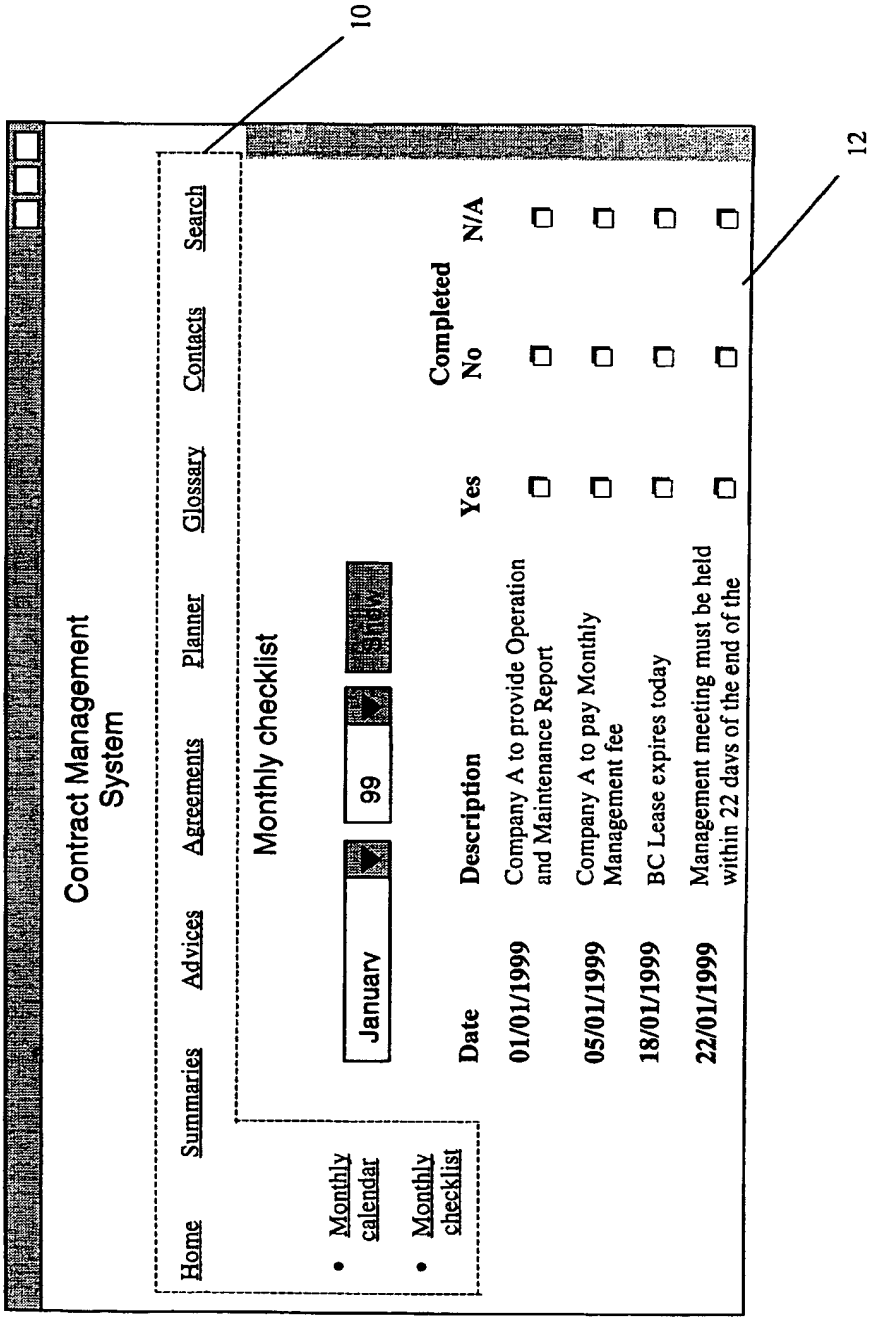
Glossary
Contacts
Search
Monthly calendar
Monthly checklist
Monthly checklist
January
2000
2001
2002
2003
2004

Fig. 10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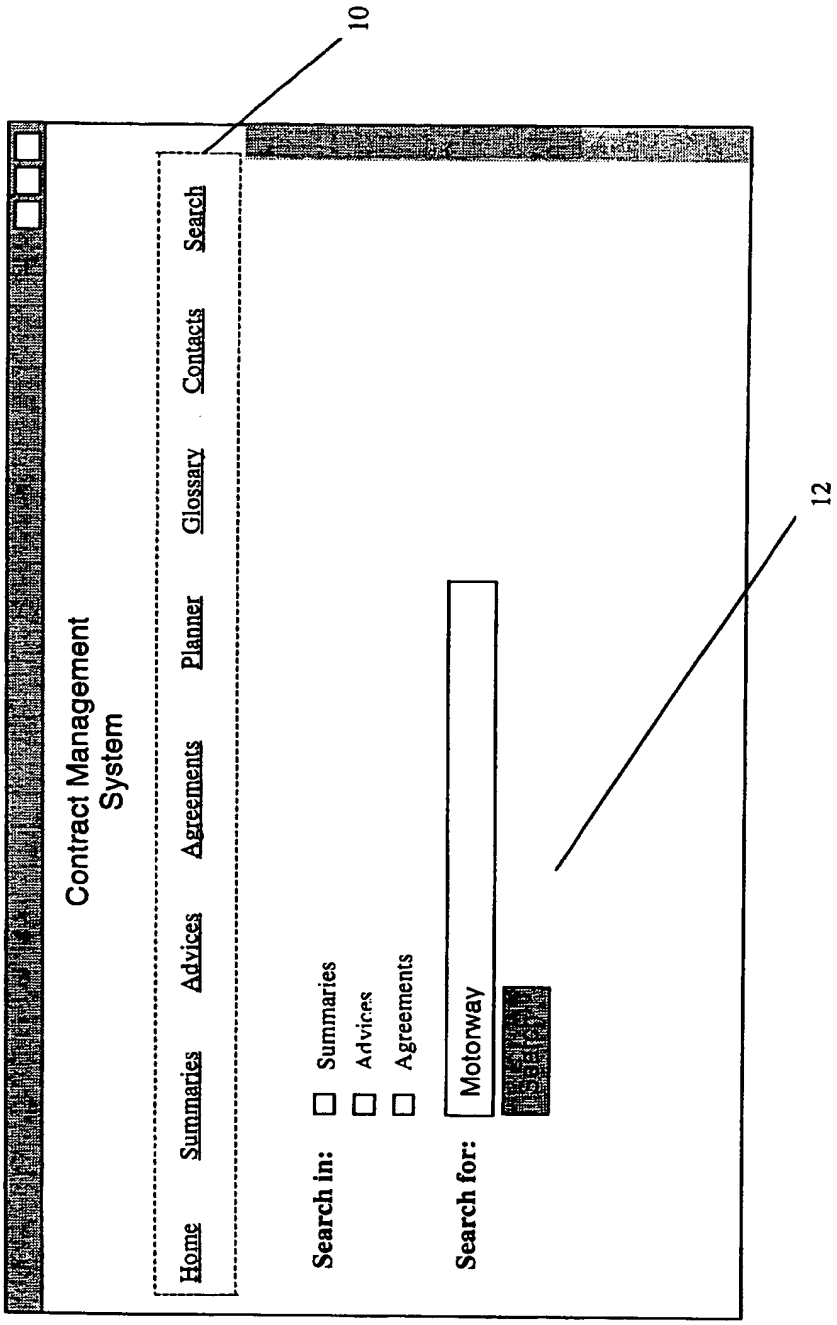
12
Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Monthly calendar
Monthly checklist
Monthly checklist
January
99
Show
Date
Description
Completed
Yes
No
N/A
01/01/1999
Company A to provide Operation and Maintenance Report
05/01/1999
Company A to pay Monthly Management fee
18/01/1999
BC Lease expires today
22/01/1999
Management meeting must be held within 22 days of the end of the

Fig. 11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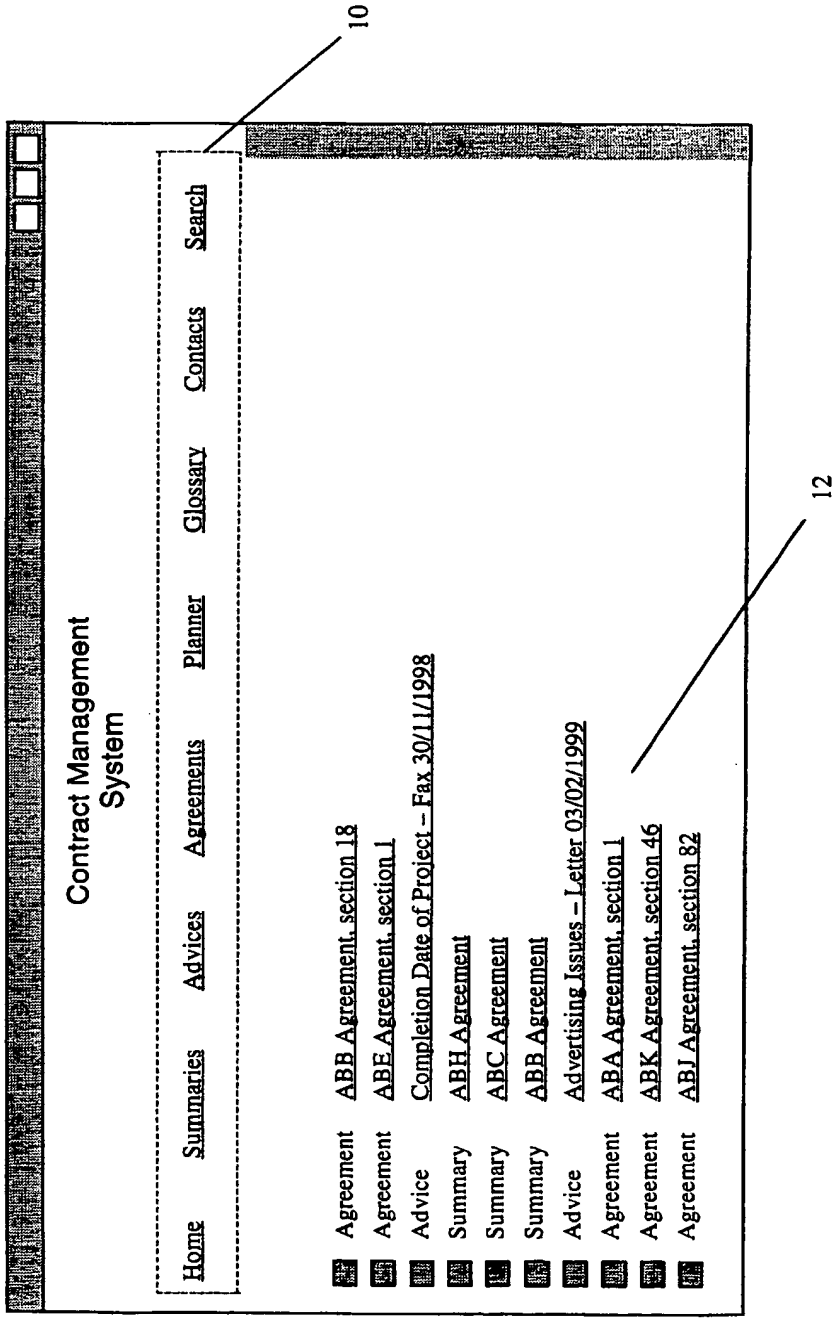
Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Search in:
Summaries
Advices
Agreements
Search for:
Motorway
12

Fig. 12


Contract Management System
Home
Summaries
Advices
Agreements
Planner
Glossary
Contacts
Search
Agreement ABB Agreement, section 18
Agreement ABE Agreement, section 1
Advice Completion Date of Project – Fax 30/11/1998
Summary ABH Agreement
Summary ABC Agreement
Summary ABB Agreement
Advice Advertising Issues – Letter 03/02/1999
Agreement ABA Agreement, section 1
Agreement ABK Agreement, section 46
Agreement ABJ Agreement, section 82
10
12

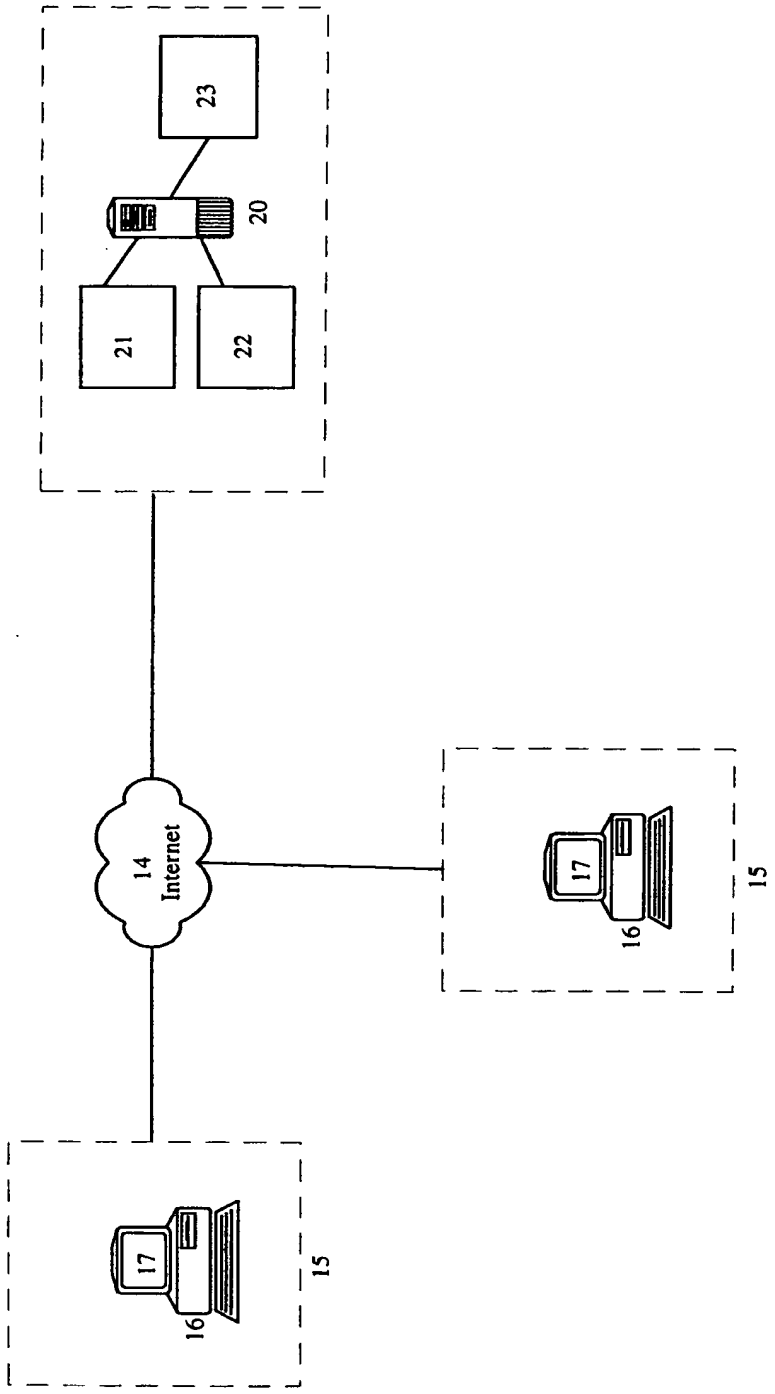


Fig. 13

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU00/01017

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. [7]: G06F 17/60/

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G06F 17/60, 17/30, 15/21

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPAT Keywords USPTO Keywords

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US, A, 5182705 (BARR et al) 26 January 1993 See whole document	1-28
X	US, A, 5557515 (ABBRUZZESE et al) 17 September 1996 See whole document	1-28

☐ Further documents are listed in the continuation of Box C ☐ See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
2 November 2000	- 9 NOV 2000
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer **Stephen Lee** Telephone No : (02) 6283 2205